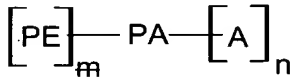
Claims 53 to 57 are withdrawn from consideration without prejudice. Please amend claim 1 as follows. The claims now pending are 1-52.

List of Claims

1. (Currently amended) A carboxylic acid functional pigment dispersant having the structure:



(I)

wherein:

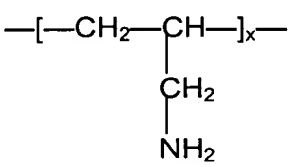
PE is a linear or branched polyester homo- or co-polymer with a molecular weight between 500-20,000, preferably 800-5,000, and wherein ~~m is the number of polyester moieties directly linked to PA and m =1-100, preferably 2-50~~ the degree of polymerization m is in the range of 1-100;

PA is ~~derived from a polyamine~~ selected from the group consisting of:

a. a polyalkylpolyamine wherein the alkyl is C_2 - C_{10} alkyl selected from the group consisting of diethylene triamine, triethylenetetramine, tetraethylenepentamine, dipropylenetriamine, tripropylenetetramine, tetrapropylenepentamine, pentaethylenehaxamine, bis(hexamethylene)triamine, pentapropylenehexamine, N,N'-bis(3-aminopropyl)-ethylenedimine, tris(aminoethyl)amine, hexaethyleneheptamine, hexapropyleneheptamine, spermidine and spermine;

b. a linear or branched polyalkylene imine selected from the group consisting of polyethyleneimine with a molecular weight up to 50,000, linear and branched polypropyleneimine with a molecular weight of up to 50,000,

c. polyallylamine;

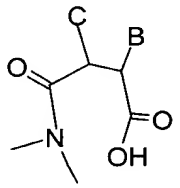


wherein x = 10 - 1,000; ~~and~~

d. a cycloaliphatic amine with more than two amine functional groups per molecule, selected from the group consisting of a hydrogenated polyformaldehyde - aniline adduct, piperazinylethyldiethylenetriamine, piperazinylethylethylenediamine, piperazinylethyltriethylenetetraamine, piperazinylethyltetraethylenepentamine and hydrogenated diaminopyrimidine;

e. a mixture of polyalkylpolyamines defined above; and

A is a moiety formed from the reaction of a 5 or 6 member ring anhydride with the free primary or secondary amines resulting from the condensation reaction of the polyester and the polyamine, an amic acid with the structure:



wherein B, C= H, C_1 - C_{20} alkyl or alkenyl or B and C together form a double bond, a cyclic aliphatic or aromatic group selected from the group consisting of benzyl, carboxyl substituted benzyl, cyclohexyl and cyclohexenyl, alkyl substituted cyclohexyl and cyclohexenyl, wherein alkyl is linear or branched C_1 - C_{20}, and n=2-100 and the anhydride is selected from the group consisting of maleic anhydride, succinic anhydride, phthalic anhydride, tetrahydrophthalic anhydride, methyltetrahydrophthalic anhydride, hexahydrophthalic anhydride, methyl hexahydrophthalic anhydride, trimellitic anhydride, alkenyl and alkyl succinic anhydride wherein the alkenyl or alkyl moiety is C_1 - C_{20} alkenyl or alkyl.

2. (Original) A pigment dispersant according to claim 1 wherein the polyester is prepared from a monomer selected from the group consisting of hydroxyalkylcarboxylic acid, a hydroxyalkylcarboxylic ester, a lactone or a mixture thereof, wherein the alkyl between the hydroxy group and the carboxyl group is a branched or linear alkyl with 1 to 20 carbons.

3. (Original) A pigment dispersant according to claim 2 wherein the monomer is a hydroxyalkylcarboxylic acid selected from the group consisting of lactic acid, glycolic acid, hydroxybutyric acid, 6-hydroxyhexanoic acid, dimethylolpropionic acid, ricinoleic acid, 12-hydroxystearic acid, 12-hydroxydodecanoic acid, 5-hydroxydodecanoic acid, 5-hydroxydecanoic acid and 4-hydroxydecanoic acid, and esters and lactones thereof.

4. (Original) A pigment dispersant according to claim 3 wherein the lactone monomer is ε - caprolactone or methyl - ε - caprolactone

5. (Original) A pigment dispersant according to claim 1 wherein the polyester, PE, is a homopolymer having a molecular weight of between 800-5,000.

6. (Original) A pigment dispersant according to claim 1 wherein m= 2 - 50.

7. (Original) A pigment dispersant according to claim 5 wherein m= 2 - 50.

8. (Original) A pigment dispersant according to claim 1 wherein n= 2 - 50.

9. (Originally presented) A pigment dispersant according to claim 5 wherein n= 2 - 50.

10. (Original) A pigment dispersant according to any one of claims 5, 6, 7, 8 and 9 wherein the polyester is a homopolymer of 12-hydroxystearic acid.

11. (Original) A pigment dispersant according to claim 10 wherein the polyamine is pentaethylenehexamine and the anhydride is succinic anhydride.

12. (Original) A pigment dispersant according to claim 8 wherein the polyester is a homopolymer of ε-caprolactone terminating with lauric acid.

13. (Original) A pigment dispersant according to claim 1 wherein the polyester, PE, is a copolymer having a molecular weight of between 800-5,000.

14. (Original) A pigment dispersant according to claim 13 wherein m= 2 - 50.

15. (Original) A pigment dispersant according to claim 13 wherein n= 2 - 50.

16. (Original) A pigment dispersant according to any one of claims 13, 14, and 15, wherein the polyester is a copolymer of 12-hydroxystearic acid and ε-caprolactone.

17. (Original) A pigment dispersant according to claim 16 wherein the polyamine is tetraethylenepentamine and the anhydride is selected from the group consisting of maleic anhydride, methyltetrahydrophthalic anhydride, and succinic anhydride.

18. (Original) A method of preparing carboxylic acid functional pigment dispersant according to claim 1 comprising the following steps :

i. polymerizing a monomer selected from the group consisting of a hydroxycarboxylic acid, an ester thereof, a lactone thereof or a mixture thereof to form a polyester with a molecular weight between 500-20,000;

ii. condensing the polyester formed with a polyamine to form a polyamide;

iii. reacting the amide with an anhydride to convert any free primary and secondary amine groups.

19. (Original) A method according to claim 18 wherein the temperature of step 1 for preparing the polyester is between 100°C and 250°C; the temperature for step 2 for condensing the polyamine with the polyester is between 80°C and 150°C and the temperature for step 3 for forming the amic acid is between 0°C and 120°C.

20. (Original) A method according to claim 19 wherein the temperature of step 1 for preparing the polyester is between 150°C and 220°C; the temperature of step 2 for condensing the polyamine and the polyester is 100°C and 130°C and the temperature for step 3 forming the amic acid is 20°C and 80°C.

21. (Original) A method to prepare the carboxylic acid functional dispersant of claim 2 according to claim 19.

22. (Original) A method to prepare the carboxylic acid functional dispersant of claim 2 according to claim 20.

23. (Original) A method to prepare the carboxylic acid functional dispersant of claim 3 according to claim 19.

24. (Original) A method to prepare the carboxylic acid functional dispersant of claim 3 according to claim 20.

25. (Original) A method to prepare the carboxylic acid functional dispersant of claim 4 according to claim 19.

26. (Original) A method to prepare the carboxylic acid functional dispersant of claim 4 according to claim 20.

27. (Original) A method to prepare the carboxylic acid functional dispersant of claim 5 according to claim 19.

28. (Original) A method to prepare the carboxylic acid functional dispersant of claim 5 according to claim 20.

29. (Original) A method to prepare the carboxylic acid functional dispersant of claim 6 according to claim 19.

30. (Original) A method to prepare the carboxylic acid functional dispersant of claim 6 according to claim 20.

31. (Original) A method to prepare the carboxylic acid functional dispersant of claim 7 according to claim 19.

32. (Original) A method to prepare the carboxylic acid functional dispersant of claim 7 according to claim 20.

33. (Original) A method to prepare the carboxylic acid functional dispersant of claim 8 according to claim 19.

34. (Original) A method to prepare the carboxylic acid functional dispersant of claim 8 according to claim 20.

35. (Original) A method to prepare the carboxylic acid functional dispersant of claim 9 according to claim 19.

36. (Original) A method to prepare the carboxylic acid functional dispersant of claim 9 according to claim 20.

37. (Original) A method to prepare the carboxylic acid functional dispersant of claim 10 according to claim 19.

38. (Original) A method to prepare the carboxylic acid functional dispersant of claim 10 according to claim 20.

39. (Original) A method to prepare the carboxylic acid functional dispersant of claim 11 according to claim 19.

40. (Original) A method to prepare the carboxylic acid functional dispersant of claim 11 according to claim 20.

41. (Original) A method to prepare the carboxylic acid functional dispersant of claim 12 according to claim 19.

42. (Original) A method to prepare the carboxylic acid functional dispersant of claim 12 according to claim 20.

43. (Original) A method to prepare the carboxylic acid functional dispersant of claim 13 according to claim 19.

44. ((Original) A method to prepare the carboxylic acid functional dispersant of claim 13 according to claim 20.

45. (Original) A method to prepare the carboxylic acid functional dispersant of claim 14 according to claim 19.

46. (Original) A method to prepare the carboxylic acid functional dispersant of claim 14 according to claim 20.

47. (Original) A method to prepare the carboxylic acid functional dispersant of claim 15 according to claim 19.

48. (Original) A method to prepare the carboxylic acid functional dispersant of claim 15 according to claim 20.

49. (Original) A method to prepare the carboxylic acid functional dispersant of claim 16 according to claim 19.

50. (Original) A method to prepare the carboxylic acid functional dispersant of claim 16 according to claim 20.

51. (Original) A method to prepare the carboxylic acid functional dispersant of claim 17 according to claim 19.

52. (Original) A method to prepare the carboxylic acid functional dispersant of claim 17 according to claim 20.

53. to 57 (Cancelled)